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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/711,493	09/21/2004	Bhanu KAPOOR	Q82851	5492

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EXAMINER
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FREJD, RUSSELL WARREN

ART UNIT	PAPER NUMBER
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2128

MAIL DATE	DELIVERY MODE
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06/29/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary**

Application No.

10/711,493

Applicant(s)

KAPOOR ET AL.

Examiner

Russell Frejd

Art Unit

2128

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 21 September 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-75 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-20, 41-49 is/are allowed.
- 6) ☒ Claim(s) 21-40, 50-59 and 65-75 is/are rejected.
- 7) ☒ Claim(s) 60-64 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>9.21.04</u> . | 6) <input type="checkbox"/> Other: _____  |

In re Application of: Kapoor et al.

***Examination of Application #10/711,493***

1. Claims 1-75 of application 10/711,493, filed on 21-September-2004, are presented for examination.

***Specification Objections***

2. The disclosure is objected to because the USP application information in [Par. 40] needs to be updated to reflect the current status of the cited application.

***Claim Rejections under 35 U.S.C. § 112, 2nd Paragraph***

3. Claim 59 and 71 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The following is a list of the specific rejections:

In regard to claim 59, the phrase "for each of the power domain" [line 5], is vague.

In regard to claim 71; the phrase "the design of integrated circuit" [line 2] is vague.

***Claim Rejections under 35 U.S.C. § 101***

4. 35 U.S.C. 101 reads as follows:  
Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter or any new and useful improvement thereof, may obtain a patent therefore, subject to the conditions and requirements of this title.

In re Application of: Kapoor et al.

**4.1** Claims 21-40, 50-58, 65-70 and 71-75 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The invention claims a method for generating and verifying isolation logic modules in the design of integrated circuits.

**4.2** This claimed subject matter lacks a practical application of a judicial exception (law of nature, abstract idea, naturally occurring article/phenomenon) since it fails to: 1) physically transform or reduce an article to a different state or thing; or 2) having the **final result** (not the steps) achieve or produce a: useful (specific, substantial, AND credible utility), concrete (assured, substantially repeatable/non-unpredictable), **and** tangible (real world/non-abstract, enabling usefulness to be realized) result. The Courts have found that subject matter that is not a practical application or use of an idea, a law of nature or a natural phenomenon is not patentable. As the Supreme Court has made clear, "[a]n idea of itself is not patentable," *Rubber-Tip Pencil Co. v. Howard*, 20 U.S. (1 Wall.) 498, 507 (1874); taking several abstract ideas and manipulating them together adds nothing to the basic equation. In re Warmerdam, 31 USPQ2d 1754 (Fed. Cir. 1994).

**4.3** Specifically, the claimed subject matter does not produce a tangible result because the claimed subject matter fails to produce a result that is limited to having real world value rather than a result that may be interpreted to be abstract in nature as, for example, a thought, a computation, or manipulated data. More specifically, the claimed subject matter in claims 21-40, 50-58 and 65-70 does not claim a practical application, that language claiming a computer-readable medium having software instructions for generating and verifying isolation logic modules in the design of integrated circuits. The medium holding instructions is determined to recite data embodied on the computer-readable medium. However, the data does not impart functionality to either the data as claimed or to the computer. As such, the claimed invention recites non-functional descriptive material, *i.e.*, mere data. Non-functional descriptive material is merely carried on the medium, it is not structurally and functionally interrelated to the medium,

In re Application of: Kapoor et al.

and thereby does not manipulate, or execute, appropriate subject matter, and thus cannot constitute a statutory process (MPEP Section 2106). See the following for more information:

**\*\*>**Descriptive material can be characterized as either “functional descriptive material” or “nonfunctional descriptive material.” In this context, “functional descriptive material” consists of data structures and computer programs which impart functionality when employed as a computer component. (The definition of “data structure” is “a physical or logical relationship among data elements, designed to support specific data manipulation functions.” The New IEEE Standard Dictionary of Electrical and Electronics Terms 308 (5th ed. 1993).) “Nonfunctional descriptive material” includes but is not limited to music, literary works, and a compilation or mere arrangement of data.

**4.4** The Examiner also posits that claims 71-75 of the present invention are computer executable software code, or a program per se, consisting of a machine-readable medium having software instructions, or modules, that implement the method for generating and verifying isolation logic modules in the design of integrated circuits. For at least this reason, the software instructions of the present invention do not meet the criteria for a statutory process (MPEP Section 2106.01).

### ***Claim Rejections under 35 U.S.C. § 102***

**5.** The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

In re Application of: Kapoor et al.

5.1 Claims 71-73 are rejected under 35 U.S.C. 102(b) as being anticipated by the article authored by MUNCH et al., hereinafter Munch, entitled *Automating RT-Level Operand Isolation to Minimize Power Consumption in Datapaths*.

5.2 Munch discloses:

Claim 71: A system for generating and verifying isolation logic modules in the design of integrated circuit [Abstract], the system comprising: a database operable to maintain voltage constraints specified by a user [p. 624, col. 2, par. 2, see "design with multiplexor and register load enable signals", and Fig. 1]; a code generator operable to generate description language code of the isolation logic modules [p. 625, col. 1, par. 3, see "RT level"]; an insertion unit operable to instantiate and insert in each of the isolation modules a respective wakeup domain [p. 625, col. 2, par. 3, see "activation signals"]; a checking unit operable to verify the correctness of the isolation logic modules [p. 625, col. 2, par. 3, see "points at which logic can be inserted"]; and a simulator operable to simulate shutdown conditions [p. 625, col. 1, par. 3, see "model"].

Claim 72: wherein the insertion unit outputs updated files of the design [p. 625, col. 2, par. 3].

Claim 73: wherein the design files comprise at least one of a register transfer level (RTL) description [p. 625, col. 2, par. 3].

### ***Claim Objections***

6. Claims 60-64 are objected to as being dependent upon a 35 U.S.C. 112, second paragraph rejected base claim. Claims 74 and 75 are objected to as being dependent upon a 102(b) rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims, pending resolution of any other rejections noted above.

In re Application of: Kapoor et al.

***Allowed Claims***

7. Claims 1-70 are deemed allowable over the prior art at this time, pending resolution of any rejections noted above, because the prior art does not specifically disclose the claimed method for generating and verifying isolation logic modules in the design of integrated circuit.

***Response Guidelines***

8. A shortened statutory period for response to this action is set to expire **3 (three) months and 0 (zero) days** from the date of this letter. Failure to respond within the period for response will cause the application to become abandoned (see MPEP 710.02, 710.02(b)).

**8.1 Any response to the Examiner in regard to this non-final action should be**


**directed to:** Russell Frejd, telephone number (571) 272-3779, Monday-Friday from 0530 to 1400 ET, **or** the examiner's supervisor, Kamini Shah, telephone number (571) 272-2279. Inquires of a general nature or relating to the status of this application should be directed to the TC2100 Group Receptionist (571) 272-2100.

**mailed to:** Commissioner of Patents and Trademarks  
P.O. Box 1450, Alexandria, VA 22313-1450

**or faxed to:** (571) 273-8300

Hand-delivered responses should be brought to the Customer Service Window, Randolph Building, 401 Dulany Street, Alexandria, VA, 22314.

**Date:** 23-June-2007

  
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**RUSSELL FREJD  
PRIMARY EXAMINER**